

[CLAIMS]

[Claim 1] A dishwasher comprising:

a tub for placing dishes to be washed therein;

a sump for holding washing water to wash the dishes in the tub; and

a motor having a rotor and a stator for generating pumping force to pump the washing water from the sump to the tub,

wherein the stator of the motor has a concentrated winding.

[Claim 2] The dishwasher as claimed in claim 1, wherein the motor has a diameter greater than a height of the motor, to have a required output.

[Claim 3] The dishwasher as claimed in claim 1, wherein the motor is of an outer rotor type.

[Claim 4] The dishwasher as claimed in claim 1, wherein the motor is a brushless DC motor.

[Claim 5] The dishwasher as claimed in claim 1, wherein the sump has a heater mounted therein for heating the washing water in the sump.

[Claim 6] The dishwasher as claimed in claim 1, wherein the tub has an upper spray

arm and a lower spray arm mounted therein wherein the washing water is not supplied to the upper spray arm and the lower spray arm at the same time.

[Claim 7] A dishwasher comprising:

a tub for placing dishes to be washed therein;

a sump for holding washing water to wash the dishes in the tub; and

a motor having a rotor and a stator for generating pumping force to pump the washing water from the sump to the tub,

wherein the stator of the motor has a diameter greater than a height of the motor, to have a required output.

[Claim 8] The dishwasher as claimed in claim 7, wherein the sump has a heater mounted therein for heating the washing water in the sump.

[Claim 9] The dishwasher as claimed in claim 7, wherein the tub has an upper spray arm and a lower spray arm mounted therein wherein the washing water is not supplied to the upper spray arm and the lower spray arm at the same time.

[Claim 10] A dishwasher comprising:

a tub for placing dishes to be washed therein;

a sump for holding washing water to wash the dishes in the tub; and

a motor having a rotor and a stator for generating pumping force to pump the washing water from the sump to the tub,

wherein the motor is of an outer rotor type for making a length of the winding shorter.

[Claim 11] The dishwasher as claimed in claim 10, wherein the sump has a heater mounted therein for heating the washing water in the sump.

[Claim 12] The dishwasher as claimed in claim 10, wherein the tub has an upper spray arm and a lower spray arm mounted therein wherein the washing water is not supplied to the upper spray arm and the lower spray arm at the same time.

[Claim 13] A dishwasher comprising:

a tub for placing dishes to be washed therein;

a sump for holding washing water to wash the dishes in the tub, the sump having a shaft hole, and a guide piece projected outward; and

a motor for generating pumping force to pump the washing water from the sump to the tub, the motor having a guide hole for receiving the guide piece on the sump.

[Claim 14] The dishwasher as claimed in claim 13, wherein the guide piece is formed around the shaft hole, and has a pass through hole corresponding to the shaft hole.

[Claim 15] The dishwasher as claimed in claim 13, wherein the guide piece has at least one sloped side surface, and the guide hole also has at least one sloped side surface in conformity with the sloped side surface of the guide piece.

[Claim 16] The dishwasher as claimed in claim 14, wherein the sump has a plurality of strength reinforcing ribs around the guide piece extended outwardly from the shaft hole in a radial direction.

[Claim 17] The dishwasher as claimed in claim 13, further comprising a sealing member around the shaft hole in the sump.

[Claim 18] The dishwasher as claimed in claim 13, wherein the motor includes a rotor and a stator, wherein the stator has a concentrated winding.

[Claim 19] The dishwasher as claimed in claim 13, wherein the motor includes a rotor and a stator, wherein the stator has a diameter greater than a height, to provide a required output.

[Claim 20] The dishwasher as claimed in claim 13, wherein the motor is of an outer rotor type for making a length of the winding shorter.